

DISCLOSURE OF THE ABSTRACT

The present invention relates to a process for polymer hydrogenation that includes:
polymerizing or copolymerizing at least one conjugated diene in a hydrocarbon solvent
using an organic alkali metal polymerization initiator to generate a living polymer; adding
5 a terminating agent selected from amines, esters, ketones, or halogen compounds to
deactivate the active terminal of the living polymer; and selectively hydrogenating the
conjugated diene polymer using at least one organotitanium compound and a lithium
hydride, which is prepared from a reactor equipped with a high-speed injection nozzle and
thereby precisely controlled in regard to particle diameter. The lithium hydride as used in
10 this process is a highly active lithium hydride having a precisely controlled particle
diameter as prepared from a reactor equipped with a high-speed injection nozzle to acquire
stable hydrogenation reaction rate and hydrogenation reproducibility, and particularly
allow the quantitative control of the lithium hydride/titanium mole ratio in the
hydrogenation of the conjugated diene polymer having different molecular weights,
15 thereby maintaining a high hydrogenation activity.